AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended): A method of adjusting the brightness of an image, the method comprising the steps of:

acquiring image data by an image acquisition device;

expressing a pixel value of each pixel in said image data as a set of three mutually independent components;

defining the brightness of each pixel based on said three components;

determining a rate of pixels based on a number of pixels having a maximum brightness among all pixels, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness; and

automatically making an adjustment to said pixel value based on the rate.

2. (original): The method as set forth in claim 1, wherein said image acquisition device is a digital camera and the adjustment to said image acquisition device is an adjustment to an exposure value at the time of photographing by said digital camera.

3. (original): The method as set forth in claim 2, wherein said pixel value is a value expressed in terms of a linear scale or power scale and wherein the adjustment to said exposure value is made based on the following transformation Eq. (1):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = k \begin{pmatrix} R \\ G \\ B \end{pmatrix} \quad \ldots \qquad (1)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

4. (original): The method as set forth in claim 2, wherein said pixel value is a value expressed in terms of a logarithmic scale and the adjustment to said exposure value is made based on the following transformation Eq. (2):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = \begin{pmatrix} R \\ G \\ B \end{pmatrix} + \begin{pmatrix} k \\ k \\ k \end{pmatrix} \quad \ldots \qquad (2)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

5. (original): The method as set forth in claim 1, wherein said image acquisition device is a data acquisition device for acquiring an image as digital data and the adjustment to said pixel value is a data transformation process of transforming the acquired digital data.

6. The method as set forth in claim 5, wherein said pixel value is a value expressed in terms of a linear scale or power scale and said data transformation process is a process based on the following transformation Eq. (1):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = k \begin{pmatrix} R \\ G \\ B \end{pmatrix} \quad \ldots \qquad (1)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

7. (original): The method as set forth in claim 5, wherein said pixel value is a value expressed in terms of a logarithmic scale and said data transformation process is a process based on the following transformation Eq. (2):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = \begin{pmatrix} R \\ G \\ B \end{pmatrix} + \begin{pmatrix} k \\ k \\ k \end{pmatrix} \quad \ldots \qquad (2)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

8. (original): The method as set forth in any one of claims 1 through 7, wherein said brightness is defined by the following Eq. (3):

$$L = \max(R, G, B) \qquad (3)$$

where L is the brightness of a pixel; R, G, and B are the three components; and max(x, y, z) is the maximum value among x, y, and z.

9. (currently amended): A digital camera comprising:

image pick-up means for photographing an image and acquiring image data in which a pixel value of each pixel is expressed as a set of three mutually independent components;

brightness analyzing means for computing a histogram of the brightness of said pixel defined based on said three components for said image data acquired by said image pick-up means; and

exposure control means for automatically making an adjustment to an exposure value at the time of photographing on the basis of said histogram so that a rate of pixels based on a number of pixels having a maximum brightness among all pixels becomes a predetermined rate, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness.

10. (original): The digital camera as set forth in claim 9, wherein said pixel value is a value expressed in terms of a linear scale or power scale and the adjustment to said exposure value is

made based on the following transformation Eq. (1):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = k \begin{pmatrix} R \\ G \\ B \end{pmatrix} \quad \ldots \qquad (1)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

11. (original): The digital camera as set forth in claim 9, wherein said pixel value is a value expressed in terms of a logarithmic scale and the adjustment to said exposure value is made based on the following transformation Eq. (2):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = \begin{pmatrix} R \\ G \\ B \end{pmatrix} + \begin{pmatrix} k \\ k \\ k \end{pmatrix} \quad \ldots \qquad (2)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

12. (original): The digital camera as set forth in any one of claims 9 through 11, wherein said brightness is defined by the following Eq. (3):

$$L = \max(R, G, B) \qquad (3)$$

where L is the brightness of a pixel; R, G, and B are the three components; and max(x, y, z) is the maximum value among x, y, and z.

13. (currently amended) An image processor comprising:

data acquisition means for acquiring an image as digital data in which a pixel value of each pixel is expressed as a set of three mutually independent components;

brightness analyzing means for computing a histogram of the brightness of said pixel defined based on said three components for said digital data acquired by said data acquisition means; and

data transformation means for automatically performing a data transformation process on the acquired digital data on the basis of said histogram so that a rate of pixels based on a number of pixels having a maximum brightness among all pixels is made a predetermined rate, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness.

14. (original): The image processor as set forth in claim 13, wherein said pixel value is a value expressed in terms of a linear scale or power scale and said data transformation process is process based on the following transformation Eq. (1):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = k \begin{pmatrix} R \\ G \\ B \end{pmatrix} \quad \ldots \qquad (1)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

15. (original): The image processor as set forth in claim 13, wherein said pixel value is a value expressed in terms of a logarithmic scale and said data transformation process is a process based on the following transformation Eq. (2):

$$\begin{pmatrix} R' \\ G' \\ B' \end{pmatrix} = \begin{pmatrix} R \\ G \\ B \end{pmatrix} + \begin{pmatrix} k \\ k \\ k \end{pmatrix} \quad \ldots \qquad (2)$$

where R', G', and B' are the three components after a transformation; R, G, and B are the three components before a transformation; and k is a constant determined according to said rate.

16. (original): The image processor as set forth in any one of claims 13 through 15, wherein said brightness is defined by the following Eq. (3):

$$L = \max(R, G, B) \qquad (3)$$

where L is the brightness of a pixel; R, G, and B are the three components; and max(x, y, z) is the maximum value among x, y, and z.

17. (currently amended) A method of adjusting the brightness of an image, the method comprising the steps of:

acquiring image data by an image acquisition device;

expressing a pixel value of each pixel in said image data as a chrominance value;

defining the brightness of each pixel based on said chrominance value;

determining a rate of pixels based on a number of pixels having a maximum brightness among all pixels, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness; and

automatically making an adjustment to said pixel value based on the rate.

18. (currently amended) A digital camera comprising:

image pick-up means for photographing an image and acquiring image data in which a pixel value of each pixel is expressed as a chrominance value;

brightness analyzing means for computing a histogram of the brightness of said pixel defined based on said chrominance value for said image data acquired by said image pick-up means; and

exposure control means for automatically making an adjustment to an exposure value at the time of photographing on the

basis of said histogram so that a rate of pixels based on a number of pixels having a maximum brightness among all pixels becomes a predetermined rate, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness.

19. (currently amended) An image processor comprising:

data acquisition means for acquiring an image as digital data in which a pixel value of each pixel is expressed as a chrominance value;

brightness analyzing means for computing a histogram of the brightness of said pixel defined based on said chrominance value for said digital data acquired by said data acquisition means; and

data transformation means for automatically performing a data transformation process on the acquired digital data on the basis of said histogram so that a rate of pixels based on a number of pixels having a maximum brightness among all pixels is made a predetermined rate, wherein the maximum brightness among all pixels is taken from a group of commonly encountered brightness.